UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,096	07/22/2005	Gary M Ducatel	36-1914	5702

23117   7590   03/28/2008
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER
CHAU, DUNG K

ART UNIT	PAPER NUMBER
2161	

MAIL DATE	DELIVERY MODE
03/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *38-60* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *38-60* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is in response to applicant's communication filed February 04,

2008 in response to PTO Office Action mailed October 03, 2007.   In response to the

last Office Action, claims 38, and 49 have been amended. As a result, claims 38-60 are

pending in this application.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection.   Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114.   Applicant's submission filed on

02/04/2008 has been entered.

Response to Arguments

3.   Applicant's arguments filed on February 04, 2008 in response to the office action

mailed on October 03, 2007 have been fully considered but are deemed to be moot in

view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

4.   The following is a quotation of 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or
> composition of matter, or any new and useful improvement thereof, may obtain a patent

therefor, subject to the conditions and requirements of this title.

5.   Claims 49-60 are rejected under 35 U.S.C. 101 because they are apparatus claims; however they lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When <u>functional</u> descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

Merely claiming <u>non</u>functional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 38-43, 45, 48-56, 58 and 60 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Fables et al., Pub. No. US 2002/0024532, in view of McGee, III et al., Pub. No. 2002/0104088.

As per **claim 38**, Fables et al, teaches the invention as claimed, including a method for improving database searching using a user profile created during a learning phase, said learning phase comprising:

automatically assigning attributes indicative of relatedness to said groups of related keywords thereby enabling creation of a user profile without requiring human intervention (page 2, paragraph [0019]); and

said method for improving database searching comprising:

receiving a search query comprising one or more search keywords from a user (page 3, paragraph [0027]) ;

accessing said user profile means and automatically identifying therefrom, for each search keyword, potentially-related keywords according to predetermined criteria (page 4, paragraphs [0035-37]);

providing said potentially-related keywords to the user (page 1, paragraph [0009]);

receiving information from the user confirming that any potentially-related keywords are considered to be related keywords (page 4, paragraph [0045]);

in the event that any potentially-related keywords are confirmed by the user to be related keywords, incorporating such potentially-related keywords as keywords in an improved search query (page 4, paragraph [0046]); and

submitting the improved search query to a search engine (page 3, paragraph [0030]; page 4, paragraphs [0046-0047]).

However, Fables et al. does not explicitly teach automatically accessing a predetermined set of documents containing a plurality of keywords; analyzing said documents and automatically identifying, according to predetermined rules, groups of related keywords therein; storing said relatedness attributes in a user profile means as a user profile.

McGee et al. teaches automatically accessing a predetermined set of documents containing a plurality of keywords as the text of the Internet documents that are accessed by the viewer are automatically compared with a previously created list of keywords in personal computer 120 (page 2, paragraph [0028]).

analyzing said documents and automatically identifying, according to predetermined rules, groups of related keywords therein as automatically analyzes the text of Internet documents to identify main topics and important keywords (page 2, paragraphs [0014-0015]);

storing said relatedness attributes in a user profile means as a user profile as the topic and the keywords are added to the viewer's personal profile (page 3, paragraph [0029]);

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Fables et al. and McGee et al. to automatically identify potentially related keywords from a set of documents, and store related keywords in user profile, because it would allow an automatic generation of user profile with minimal user input to improve database searching.

As to **claim 39**, Fables et al. further teaches a method according to claim 38 further comprising:

updating the set of documents by adding documents to or subtracting documents form the set (page 3, paragraph [0029-0030]);

analyzing the updated set of documents and identifying existing and additional groups of related keywords therein, according to predetermined rules (page 3, paragraph [0030]);

assigning attributes indicative of relatedness to said additional groups of related keywords (page 3, paragraph [0030]);

updating the relatedness attributes of said existing groups of related keywords (page 4, paragraph [0045-0046]); and

updating the user profile in accordance with the relatedness attributes of said existing and additional groups of related keywords (page 4, paragraph [0045-0046]).

As to **claim 40**, Fables et al. further teaches wherein the step of updating the set of documents comprises updating the set of documents in response to user input (page 1, paragraphs [0008-0010]; page 3, paragraph [0030]).

As to **claim 41**, Fables et al. further teaches wherein the step of updating the set of documents comprises adding new documents to the set of documents in the event of user input confirming that said new documents are of interest to the user (page 1, paragraphs [0008-0010]; page 3, paragraph [0030]).

As to **claim 42**, Fables et al. further teaches wherein the step of updating the set of documents comprises updating the set of documents on the basis of documents viewed by the user following receipt of a response form a search engine to a search to a search query (page 1, paragraphs [0008-0010]; page 3, paragraph [0030]).

As to **claim 43**, Fables et al. further teaches wherein groups containing pairs of related keywords are identified (page 3, paragraph [0027]; page 4, paragraph [0054]).

As to **claim 45**, Fables et al. further teaches wherein the step of assigning attributes comprises assigning importance values indicating the statistical significance of related keywords in the set of documents (page 4, paragraph [0044-0047]).

As to **claim 48**, Fables et al. further teaches wherein said relatedness attributes are stored in the form of fuzzy sets (page 2, paragraph [0019]).

As per **claim 49**, Fables et al, teaches the invention as claimed, including apparatus for improving database searching using a user profile created during a learning phase, said apparatus comprising:

attribute assigning means arranged to automatically assign attributes indicative of relatedness to said groups of related keywords thereby enabling creation of a user profile without requiring human intervention (page 2, paragraph [0019]); and

means for receiving a search query comprising one or more search keywords from a user (page 3, paragraph [0027]);

means arranged to access said user profile means and to automatically_identify therefrom, for each search keyword, potentially-related keywords according to predetermined criteria (page 4, paragraphs [0035-37]);

means arranged to provide said potentially-related keywords to the user (page 1, paragraph [0009]);

means for receiving information from the user confirming that any potentially-related keywords are considered to be related keywords (page 4, paragraph [0045]);

means arranged to incorporate such potentially-related keywords in an improved search query in the event that they are confirmed by the user to be related keywords (page 4, paragraph [0046]); and

means for submitting the improved search query to a search engine (page 3, paragraph [0030]; page 4, paragraphs [0046-0047]).

However, Fables et al. does not explicitly teach means for automatically accessing a predetermined set of documents containing a plurality of keywords during a learning phase; analyzing means arranged to analyze said documents and to automatically identify, according to predetermined rules, groups of related keywords therein; user profile storing means arranged to store said relatedness attributes in a user profile means as a user profile;

McGee et al. teaches means for automatically accessing a predetermined set of documents containing a plurality of keywords during a learning phase as the text of the Internet documents that are accessed by the viewer are automatically compared with a previously created list of keywords in personal computer 120 (page 2, paragraph [0028]).

analyzing means arranged to analyze said documents and to automatically identify, according to predetermined rules, groups of related keywords therein as automatically analyzes the text of Internet documents to identify main topics and important keywords (page 2, paragraphs [0014-0015]);

user profile storing means arranged to store said relatedness attributes in a user profile means as a user profile as the topic and the keywords are added to the viewer's personal profile (page 3, paragraph [0029]);

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Fables et al. and McGee et al. to

automatically identify potentially related keywords from a set of documents, and store related keywords in user profile, because it would allow an automatic generation of user profile with minimal user input to improve database searching.

As to **claim 50**, Fables et al. further teaches wherein the predetermined set of documents is a set of documents expected to reflect the interests of a specific user (page 1, [0015]).

As to **claim 51**, Fables et al. further teaches wherein the predetermined set of documents is a set of documents derived from a set of documents previously viewed by a specific user (page 4, paragraph [0048]).

As to **claim 52**, Fables et al. further teaches apparatus according to claim 49 further comprising:

document updating means arranged to update the set of documents by adding documents to or subtracting documents from the set during an updating phase (page 3, paragraph [0029-0030]);

identifying means arranged to analyze the updated set of documents and to identify existing and additional groups of related keywords therein, according to predetermined rules (page 3, paragraph [0030]);

means arranged to assign attributes indicative of relatedness to said additional groups of related keywords (page 3, paragraph [0030]);

user profile updating means arranged to update the user profile in accordance with the relatedness attributes of said existing and additional groups of related keywords (page 4, paragraph [0045-0046]).

As to **claim 53**, Fables et al. further teaches wherein the document updating means is arranged to update the set of documents in response to user input (page 1, paragraphs [0008-0010]; page 3, paragraph [0030]).

As to **claim 54**, Fables et al. further teaches wherein the document updating means is arranged to add new documents to the set of documents in the event of user input confirming that said new documents are of interest to the user (page 1, paragraphs [0008-0010]; page 3, paragraph [0030]).

As to **claim 55**, Fables et al. further teaches wherein said document updating means is arranged to update the set of documents on the basis of documents viewed by the user following receipt of a response from a search engine to a search to a search query (page 1, paragraphs [0008-0010]; page 3, paragraph [0030]).

As to **claim 56**, Fables et al. further teaches wherein the analyzing means comprises means for identifying groups containing pairs of related keywords (page 3, paragraph [0028]; page 4, paragraph [0054]).

As to **claim 58**, Fables et al. further teaches wherein the attribute assigning means comprises importance value assigning means for assigning importance values indicating the statistical significance of related keywords in the set of documents (page 4, paragraph [0044-0047]).

As to **claim 60**, Fables et al. further teaches wherein the user profile storing means is arranged to store said relatedness attributes in the form of fuzzy sets (page 2, paragraph [0019]).

8.   Claims 44, and 57 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Fables et al. (Fables), Pub. No. 2002/0024562, in view of McGee, III et al. (McGee), Pub. No. 2002/0104088, as applied to claims 38, and 49, in view of Choi, Pub. No. US 2002/0042793.

As to **claim 44**, Fables and McGee teach the invention substantially as claimed as discussed above; however, Fables does not explicitly teach wherein related keywords are identified from the set of documents by means of a self-organizing map algorithm.

Choi teaches a method of using Bayesian self-organizing feature maps (SOM) to identifying related keywords from the set of documents (abstract; page 3, paragraphs [0051-0052]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified the method for creating and maintaining a user profile for a user for improving database searching of Fables and McGee by using SOM

algorithm, as taught by Choi, as this modification would allow the related keywords are identified from the set of documents by means of a Self-organizing map algorithm.

As to **claim 57**, Fables and McGee teach the invention substantially as claimed as discussed above; however, Fables and McGee do not explicitly teach wherein the analyzing means comprises means for identifying related keywords from the set of documents by means of a self-organizing map algorithm.

Choi teaches a method of using Bayesian self-organizing feature maps (SOM) to identifying related keywords from the set of documents (abstract; page 3, paragraphs [0051-0052]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified the method for creating and maintaining a user profile for a user for improving database searching of Fables and McGee by using SOM algorithm, as taught by Choi, as this modification would allow the related keywords are identified from the set of documents by means of a Self-organizing map algorithm.

9.   Claims **46, 47, and 59** are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Fables et al. (Fables), patent no. US 6895406, in view of McGee, III et al. (McGee), Pub. No. 2002/0104088, as applied to claims 38, and 49 in view of Kawasaki, Patent No. US 6539375

As to **claim 46** Fables and McGee teach the invention substantially as claimed as discussed above; however, Fables and McGee do not explicitly teach the step of

assigning attributes comprises assigning life-span values indicating the expected remaining period of time of relatedness between keywords in the set of documents.

Kawasaki teaches the use of an aging algorithm to generate a level of recent interest (Fig 3; column 4, lines 42-48; column 5, lines 9-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified the method for creating and maintaining a user profile for a user for improving database searching of Fables and McGee by using aging algorithm, as taught by Kawasaki, as this modification would allow to obtain the life-span values indicating the expected remaining period of time of relatedness between keywords in the set of documents.

As to **claim 47**, Fables and McGee teach the invention substantially as claimed as discussed above; however, Fables and McGee do not explicitly teach the step of updating the relatedness attributes comprises a step of systematically decreasing the life-span values over time.

Kawasaki teaches the use of an aging algorithm to generate a level of recent interest (Fig 3; column 4, lines 42-48; column 5, lines 9-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified the method for creating and maintaining a user profile for a user for improving database searching of Fables and McGee by using aging algorithm, as taught by Kawasaki, as this modification would allow to obtain the life-span values indicating the expected remaining period of time of relatedness

between keywords in the set of documents.

As to **claim 59** Fables and McGee teach the invention substantially as claimed as discussed above; however, Fables and McGee do not explicitly teach the attribute assigning means comprises means for assigning life-span values indicating the expected remaining period of time of relatedness between keywords in the set of documents.

Kawasaki teaches the use of an aging algorithm to generate a level of recent interest (Fig 3; column 4, lines 42-48; column 5, lines 9-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified the method for creating and maintaining a user profile for a user for improving database searching of Fables and McGee by using aging algorithm, as taught by Kawasaki, as this modification would allow to obtain the life-span values indicating the expected remaining period of time of relatedness between keywords in the set of documents.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Documents:

US 20040044658 A1   Crabtree, Ian B et al.

11.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung K. Chau whose telephone number is 571-270-

1754. The examiner can normally be reached on Mon - Friday 7:30am - 5:00pm Est, Alt

Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. W./
Primary Examiner, Art Unit 2164

/Dung K Chau/
Examiner, Art Unit 2161

March 26, 2008

/Apu M Mofiz/

Supervisory Patent Examiner, Art Unit 2161